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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/818,874

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Bin Wei

9038-118200

2448

7590

01/12/2005

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EXAMINER

LAU, TUNG S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/818,874

Applicant(s)

WEI ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-7 is/are allowed.
- 6) ☒ Claim(s) 8, 13, 16, 17, 18, 19, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 9-12, 14, 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 13, 16, 17, 18, 19, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Reber (U.S. Patent 5,113,358).

Regarding to claim 8

Reber discloses a method of monitoring machining in an electrochemical machining tool assembly having first and second tools, said method comprising: mounting a first ultrasonic transducer in said first tool (fig. 5, unit 20); mounting a second ultrasonic transducer in said second tool; situating a workpiece between said first and second tools so as to define a first gap between said first tool and said workpiece and a second gap between said second tool and said workpiece (fig. 5, unit 21, 20), connecting a source of electric power to said first and second tools and to said workpiece, flowing an electrolytic fluid through said first and second gaps (Col. 3, Lines 1-50, Col. 10, Lines 27-55); generating ultrasonic waves with said first and second ultrasonic transducers, detecting a first arrival time of an ultrasonic wave reflected from an interface between said electrolytic fluid and said first tool; detecting a second arrival time of an ultrasonic wave reflected from an interface between said electrolytic fluid

and a first side of said workpiece (Col. 3, Lines 1-50, Col. 10, Lines 27-55), detecting a third arrival time of an ultrasonic wave reflected from an interface between said electrolytic fluid and said second tool; and detecting a fourth arrival time of an ultrasonic wave reflected from an interface between said electrolytic fluid and a second side of said workpiece (Col. 3, Lines 1-50, Col. 10, Lines 27-55), and using said arrival times to calculate at least one of said first gap size, said second gap size, and thickness of said workpiece (Col. 3, Lines 1-50, Col. 10, Lines 27-55).

Regarding to claim 17

Reber discloses an electrochemical machining tool assembly comprising: first and second tools spaced apart from one another so that a workpiece can be located there between; a first ultrasonic transducer mounted in said first tool (fig. 5, unit 20); an acoustic couplant between said first ultrasonic transducer and said first tool (abstract); a second ultrasonic transducer mounted in said second tool (fig. 5, unit 21); and means for calculating gap sizes and workpiece thickness from arrival times at said first and second ultrasonic transducers of reflections of ultrasonic waves generated by said first and second ultrasonic transducers (Col. 3, Lines 1-50, Col. 10, Lines 27-55).

Regarding to claim 16, Reber discloses the workpiece relative to workpiece datum (fig. 5, unit 32). Regarding to claim 13, Reber discloses acoustic couplant between the second ultrasonic sensor and second tool (fig. 5, unit 21, 20). ).

Regarding to claim 18, use for cutting surface (abstract); Regarding to claim 19,

Reber discloses ultrasonic transducers including contact transducers (abstract).

Regarding to claim 21, Reber discloses ultrasonic transducers in second tool (fig. 5, unit 21, 20), regarding claim 20, the transducer including immersion transducer (abstract).

### ***Claim Objections***

2. Claims 9-12, 14, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach, Regarding claim 9, step of using said arrival times to calculate at least one of said gap size, said second gap size, and thickness of said workpiece includes calculating the ultrasonic time-of-flight in said first gap by subtracting said first arrival time from said second arrival time and calculating the ultrasonic time-of-flight in said second gap by subtracting said third arrival time from said fourth arrival time. Regarding claim 14, disconnecting said source of electric power while generating ultrasonic waves with said first and second ultrasonic transducers and detecting said arrival times. Regarding claim 15, regulating said source of electric power to minimize gas bubble generation on said first and second tools.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 10-12 are objected due to their dependency on claim 9.

***Allowable Subject Matter***

3. Claims 1-3, 5-7 are allowed.

***Reasons for Allowance***

4. The following is an examiner's statement of reasons for allowance:

Independent claim 1 contains allowable subject matter. None of the prior art of record shows or fairly suggests the claimed invention.

Regarding claim 1:

The primary reason for the allowance of claim 1 is stated in office action date 9/10/2004. Claims 2-3, 5-7 are allowed due to their dependency on claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

5. Applicant's arguments filed 12/13/2004 have been fully considered but they are not persuasive.

A. Applicant argues arguments that the prior art does not show the 'use of an electrolytic fluid'. Reber discloses 'use of an electrolytic fluid' in Col. 3-4, Lines 7-11. Reminds to the applicants that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

B. Applicant argues arguments that the prior art does not show the 'an acoustic couplant between said first ultrasonic transducer and said first tool'. Reber discloses 'an acoustic couplant between said first ultrasonic transducer and said first tool' both in abstract and Col. 2-3, Lines 56-61.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

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period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274.

The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

  
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